07/939,834

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EXAMINER	
TREAT, W	
ART UNIT	**PAPER NUMBER**
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OBLON, SPIVAK, MCCLELLAND,
MAIER & NEUSTADT
1755 JEFFERSON DAVIS HWY.
FOURTH FLOOR
ARLINGTON, VA 22202

DATE MAILED: 12/31/95

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 9/15/95 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 (three) month(s), ____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☒ Claims 1-9 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-9 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☒ The proposed additional or substitute sheet(s) of drawings, filed on 9/15/95. has (have) been ☒ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☒ Other — See attached.

EXAMINER'S ACTION

PTOL-326 (Rev. 2/93)

15. Claims 1-9 are presented for examination.

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

17. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

19. Claims 1-7 are rejected under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Wexelblat et al. (Patent No. 5,021,976).

20. Wexelblat taught the invention as claimed including a data processing (DP) system with an apparatus for creating a virtual world database comprising:

a) receiving means for receiving a pictorial representation of the world (column 4, line 20 through col. 7, line 56); and,

b) grouping means, coupled to the receiving means for grouping description of pictorial representation of objects in the virtual world into selected groups (col. 4, line 20 through col. 7 line 56) of at least one of wireframe objects and polygon objects (col. 12, lines 21-25).

21. As to claim 2, Wexelblat taught attribute assigning means, coupled to the grouping means, for assigning attributes to the groups, the attribute means including hierarchy means for selecting a hierarchy for the selected groups (col. 4, line 45 through col. 6, line 22).

22. As to claims 3-5, Wexelblat taught attribute assigning means comprises motion constraint, color and texture assigning means (col. 8, line 35 through col. 9, line 60).

23. As to claim 6, Wexelblat taught data coupling means, coupled to the grouping means, for coupling real world data to the groups (col. 4, line 60 through col. 5, line 6).

24. As to claim 7, it is rejected as failing to teach or define over rejected claims 1-6.

25. Claims 8-9 are rejected under 35 U.S.C. § 103 as being unpatentable over Wexelblat et al. (Patent No. 5,021,976) in view of Richburg (Patent No. 5,159,687).

26. Wexelblat taught appropriate first and second computers (col. 14, line 64 through col. 15, line 40), appropriate editing means (col. 8, line 35 through col. 11, line 30), appropriate conversion means col. 14, line 64 through col. 15, line 10), and utilizing polygon shapes in depicting the virtual world (col. 12, lines 21-25).

27. Wexelblat did not teach a means for building a script file to run the appropriate programs. However, Richburg taught that such techniques are prior art (col. 5, line 1 through col. 7, line 2). One of ordinary skill in the DP art would be motivated to combine Richburg's teaching of generating script files to run applications with Wexelblat's virtual reality application to simplify the programming and control of Wexelblat's system.

28. As to claim 9, Wexelblat has already taught the utility of spreading the processing load across two computers (col. 14, line 64 through col. 15, line 40). One of ordinary skill in the data processing art would be motivated to utilize a third computer to, as taught by Wexelblat, spread the processing load thereby

enabling the individual processors to perform their assigned tasks more quickly due to reduced load.

29. Claims 1-9 are rejected under 35 U.S.C. § 103 as being unpatentable over Wexelblat (Patent No. 5,021,976) in view of Richburg (Patent No. 5,159,687) and Fisher et al. ("Virtual Environment Display System").

30. Wexelblat and Richburg taught the substance of claims 1-9 (see paragraphs 20-24 and 26-28, supra). Applicant has argued that neither Wexelblat nor Richburg taught pictorial representation of objects in the virtual world into selected groups of at least one of wireframe objects and polygon objects despite Wexelblat's specific mention of using polygon shapes in depicting the virtual world (col. 12, lines 21-25). However, Fisher makes it clear that applicants' use of wireframe objects and polygon objects to depict objects in the virtual world is merely the well-known, prior art methodology for depicting objects in a virtual world (Fig. 9). Were Wexelblat's specific mention of polygons to depict the virtual world not reason enough to combine, then the fact that it is much less computationally intensive to depict virtual objects from wireframe objects and polygon objects would be motivation enough to combine Fisher's teachings of the prior art methodology with those of Wexelblat.

31. Applicants have argued, in addition, Wexelblat's views are not views in a visual sense but rather in a database sense,

quoting a definition for an SQL database as justification for their assertion. First, the examiner would point out that there is nothing in Wexelblat even mentioning SQL (structured query language) as the means for querying and managing Wexelblat's knowledge bases. Wexelblat specifically taught language and processor independence for his system. "An additional aspect of an iconic system is that it provides a way for a user to deal with computers that are tied together among different non-homogeneous knowledge bases in diverse locations." - (col. 11, lines 20-23) "For example, the system can be implemented with a dual-processor CPU, one interfacing the graphics system and the other containing the application program and accessing the knowledge base within the memory 52. The user interface layer can be written in one language to control the display and allow the knowledge base to be explored and altered through direct user manipulation of the graphic object comprising the features of the icon 56. In the other processor of the CPU 51, the knowledge-base interface layer can be written in a different language and connect the application program and data in the knowledge-base to the user-interface layer through a control language." - (col. 14, line 64 through col. 15, line 8). Second, Wexelblat taught views in a visual sense (col. 4, lines 53-68). Third, applicants views are really views related to a database as with Wexelblat and such multi-dimensional, graphic representation of knowledge-based

information is merely the prior art approach (Fisher, Information Management).

32. Applicants have also argued Wexelblat does not disclose assigning constraints of motion attributes. The examiner disagrees. Wexelblat taught: "In contrast, the view provided within the design space 1 for the plumber 16 is a floor-by-floor view that emphasizes where the piping is going within the skyscraper and that includes artificial reality artifacts that might interfere with the path chosen for the piping." - (col. 4, lines 60-64). There are constraints on the path where pipe may be laid. Wexelblat also taught an artificial reality depicting flight rules (col. 10, lines 15-19). It would be illogical to assume such a system would allow underground flight of a plane. Furthermore, Wexelblat taught "features may include size, color, position, annotation, shape, texture, movement, combinations of shapes, and many other representations"(col. 9, lines 32-35). He did not exclude constraints on motion nor is it logical to assume he would do so given the cited examples.

33. Next, applicants argued Wexelblat is directed towards editing of information as opposed to drawing of a virtual world using wireframe objects and polygon objects. Wexelblat specifically taught: "Once the relevant information is selected, a set of graphical iconic shapes can be constructed that associates visual features with various parameters of interest to

represent that information. This may be done by putting together combinations of appearances and features using the various graphical techniques available. These features may include size, color, position, annotation, shape, texture, movement, combinations of shapes, and many other representations"- (col. 9, lines 26-35). Certainly, Wexelblat wanted to be able to edit his system but his systems goes well-beyond merely editing to drawing of a virtual world using wireframe objects and polygon objects (i.e., "combinations of shapes") which, as Fisher points out, is merely well-known prior art.

34. Finally, applicant argues that the combination of Wexelblat and Richburg would imply an automatic database analyzer and not a "means for building a script file for making a script file for making at least one of a wireframe and polygon-based virtual world. On the contrary, Wexelblat specifically taught: "To minimize the amount of effort needed to set up each successive artificial reality, artifacts from previous projects are stored in a way that allows easy search and selection of artifacts to create another reality. Artifacts, artifact groups, and their associated editors may all be reused across various projects; however, since no two projects are completely identical, the artifacts may also be changed between projects." - (col. 5, lines 55-62). Richburg taught: "Stated broadly, an object of the present invention is to provide a method and means to create,

manage, disseminate and utilize complex, standardized software scripts in a manner easily used and applied by a wide class of users. Such object is accomplished, in part, by storing standardized software units (e.g. program scripts), and a set of rules (e.g., an SEL language) which defines rules and procedures for assembling the standard software units. The use of such method encourages and supports consistency, reliability, extensibility, and maintainability of software products." - (col. 3, lines 55-65) "One objective of the method according to the present invention is to render the script generation process independent of any programming language, procedure (production) language, tag language, script language or any other text scripted process typically used for computer programming. More particularly, it is a feature of the invention that the knowledgebase components, including the stored standard software units, can be created and maintained with any common text editing program or similar computer utility." - (col. 4, lines 5-14) "According to a specific feature of one implementation of the invention, a prototype software program provides a user interface to the requirements database and allows the user by simple check-the-box or other step-by-step procedural processes to specify the requirements database and have them stored in locations which will later be accessible to the program processor which constructs the final output code." - (col. 4, lines 33-41).

Basically, the "artifacts, artifact groups, and associated editors of Wexelblat are programs (i.e. software units in Richburg's vocabulary) and related data. Use of Richburg's teachings to control Wexelblat's software units would enable Wexelblat to provide good control of his program data which enable creation of his "visual features" depicting "movement, combinations of shapes, and many other representations" while enabling him to meet his goals of software and hardware independence. Wexelblat's overall system concept goes beyond merely editing to the depiction of a virtual world.

35. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL.** See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William M.Treat whose telephone number is (703) 305-9699.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.

W.M.Treat/kw

WILLIAM M. TREAT
PATENT EXAMINER
GROUP 2300